



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/073,494	05/06/98	PAN	F 2915.105(96-

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EXAMINER

VU.H

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 11/07/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/073,494

Applicant(s)
PAN ET AL.

Examiner
HUNG VU

Group Art Unit
2811



☒ Responsive to communication(s) filed on Aug 17, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 23-28 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 23-28 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

1. Applicant's communication filed 08/17/00, has been carefully considered by the examiner. The arguments advanced therein are persuasive with respect to the rejections of record, and those rejections are accordingly withdrawn. In view of a further search, however, a new rejection is set forth further below. This action is not made final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 24 and 28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose a crystalline metallic silicide film is substantially devoid of silicon clusters, as recited in claims 24 and 28. Note that the specification, page 7, lines 5-21, discloses that ions implant into and amorphizes the metallic silicide film. As a result, the metallic silicide film is not the crystalline metallic silicide film anymore, but it becomes an amorphous metallic silicide film.

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3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 25 and 26, lines 1-2, "a dielectric layered semiconductor substrate" is unclear as to how a dielectric can be semiconductor?

In claim 26, line 2, "said dielectric layer" lacks of antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Segawa et al.

(PN 5,428,244, of record).

Segawa et al. discloses a gate stack on a dielectric layer comprising,

a polysilicon layer (3) disposed over the dielectric layer;

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a non-crystalline metallic silicide film (4) disposed over the polysilicon layer;
a dielectric cap (7) on the non-crystalline metallic silicide film. Note Figure 12 of Segawa et al..

The examiner interprets that the temperature required to anneal tungsten silicide to become crystalline is higher than 850°C, because the metallic silicide film is formed at temperature of from 500 to 600°C, therefore at less than 600°C tungsten silicide is not crystalline.

With regard to claims 24 and 28, as discussed above, because tungsten silicide is not crystalline, it is inherent that the metallic silicide does not contain silicon clusters.

With regard to claim 26, as discussed above, it is inherent the dielectric layer is substantially devoid of pitting.

Response to Arguments

5. Applicant's arguments with respect to claims 23-28 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

6. Papers related to this application may be submitted to Technology Center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to ***Hung Vu*** whose telephone number is **(703) 308-4079**. The Examiner is in the Office generally between the hours of 7:30 AM to 4:00 PM (Eastern Standard Time) Monday through Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **(703) 308-0956**.

Vu

November 3, 2000

Steven Loke
Primary Examiner

